Application Serial No. 10/631,222 Attorney Docket No. 76306
In reply to Office Action of 9 September 2004

AMENDMENTS TO THE CLAIMS

Claims 1 and 2 (canceled).

3. (currently amended) ~~The~~ An interim manufacturing step subassembly ~~of claim 1, wherein:~~ of a longitudinal section of a flexible cable comprising:

a core structure having a longitudinal axis and provided at its opposite end portions with cylindrical grip foundation surfaces concentric with said axis;

a one and another grip assemblies at corresponding one and another opposite ends of said core structure, each grip assemblies being of the type having at its axially inwardly disposed end a Chinese-finger-toy-type cylindrical open-mesh-sleeve concentric with said longitudinal axis, the open-mesh-sleeve of the respective grip assemblies being fitted over the cylindrical outer surfaces of grip foundations at the corresponding ends of the core structure;

a set of at least three strength strands to restrain the open-mesh-sleeves of said one and another grip

assemblies to positions having a predetermined maximum distance of longitudinal separation, said set of strength strands being equiangular radially spaced in planes perpendicular to the longitudinal axis;

the opposite ends of strength strands of said set being made fast to the associated open-mesh-sleeve;

the construction and arrangement by which the strength strands are made fast to the associated open-mesh-sleeves being such that the span of each strength strand between the open-mesh-sleeve of the one and other grip assemblies is taut;

each strength strand of said set having a linear portion thereof proximate each of its ends which is interlaced in a longitudinal direction through a plurality of successive ones of an axially outward series of open spaces of the associated open-mesh-sleeve; and

the marginal end portion at said each of the ends of said each strand is tied to the associated open-mesh-sleeve.

4. (original) The subassembly of claim 3, further comprising:

each cylindrical outer surface of grip foundation having formed therein a corresponding set of longitudinally extending grooves under the paths of the corresponding interlacings of the strength strands through the open spaces of open-mesh-sleeves to accommodate passing of the strength strands under mesh strands as part of said interlacings.

5. (original) The subassembly of claim 3, further comprising:

each said open-mesh-sleeve comprising first and second pluralities of mesh strands which are respectively helically wound in opposite helical directions of rotation and which are interwoven at crossings of the two mesh strand respectively being wound in opposite helical directions of rotation;

the marginal end portions of individual strands of said set at one end of the set and the marginal end portions of the individual strands of the said set at the other end of the set forming respective bundles of strength strand marginal end portions; and

each respective bundle of marginal end portions forming a knot which entwines and binds together the bundle and two mesh strands respectively being wound in opposite helical directions of rotation of mesh strands of the open-mesh-sleeve.

6. (currently amended) The subassembly of claim 5, wherein:

each said knot which entwines and ~~bind~~ binds said bundle and the strands includes excess tail ends of strength strands; and

said excess tail ends are tucked under at least one mesh strand with the tucking arrangement infused with hardened glue.

7. (currently amended) The assembly of claim [[1]] 3, further comprising:

each Chinese-finger-toy-type open-mesh-sleeve responding to attempted sliding withdrawal of the grip foundation surface from the open-mesh-sleeve by radially

constricting to increase the griping force exerted upon the associated grip foundation surface.

8. (currently amended) The assembly of claim [[1]] 3, wherein:

the open-mesh-sleeves of the pair of grip assemblies are made of a metal material; and

the strength strands are made of a non-metallic material.

9. (original) The subsystem of claim 8, wherein:

said non-metallic strength strands are made of aromatic polyamide fibers.

10. (currently amended) The subassembly of claim [[1]] 3, further comprising:

said core structure including a linearly extending energy transmission medium selected from the group of mediums consisting of electric wires, microwave co-axial lines, and fiber optic lines.

11. (canceled).

12. (currently amended) The method of claim [[11]] 13 further comprising:

prior to said connecting of the open-mesh-sleeves causing a longitudinal stress across the individual strength strands in said set; and

while the individual strands of the set have tensile strength there across making fast each end of each strength strand to the associated open-mesh-sleeve to form the connection between said respective open-mesh-sleeves by said set of strength strands while individually in taut condition.

13. (currently amended) ~~The~~ A method ~~of claim 11, further~~ for fabricating a cable section assembly comprising:

providing a core structure having a longitudinal axis and having an axially extending grip foundation surface at it opposite ends;

providing a pair of grip assemblies, each grip assembly at the said end which faces axially inwardly having a

Chinese-finger-toy-type open-mesh-cylindrical-sleeve having a predetermined diameter chosen to fit onto a grip foundation surface of the core structure;

fitting respective open-mesh-sleeves of said pair of grip assemblies onto grip foundation surfaces at one and the other of the opposite ends of said core structure; and

connecting said respective open-mesh-sleeves by a set of at least three strength strands to restrain the pair of grip assemblies to positions having a predetermined maximum distance of longitudinal separation, said set of strength strands being equiangularly spaced in planes perpendicular to the longitudinal axis;

at each end portion of each strength strand of said set longitudinally interlacing a linear portion of the strand proximate to the end of the strand through a plurality of successive ones of an axially outwardly series of open spaces of the associated open-mesh-sleeves; and

at said each end portion of the end of each strength strand

tying the marginal end portion thereat to the

associated open-mesh-sleeve.

14. (currently amended) ~~The~~ A method ~~of claim 11, further~~ for fabricating a cable section assembly comprising:

providing a core structure having a longitudinal axis and having an axially extending grip foundation surface at it opposite ends;

providing a pair of grip assemblies, each grip assembly at the said end which faces axially inwardly having a Chinese-finger-toy-type open-mesh-cylindrical-sleeve having a predetermined diameter chosen to fit onto a grip foundation surface of the core structure;

fitting respective open-mesh-sleeves of said pair of grip assemblies onto grip foundation surfaces at one and the other of the opposite ends of said core structure;

connecting said respective open-mesh-sleeves by a set of at least three strength strands to restrain the pair of grip assemblies to positions having a predetermined

maximum distance of longitudinal separation, said set of strength strands being equiangularly spaced in planes perpendicular to the longitudinal axis;

said provided pair of grips assemblies being of the type wherein their open-mesh-sleeves comprise first and second pluralities of mesh strands which are respectively helically wound in opposite directions of rotation and which are interwoven at crossings of counter-rotating mesh strands;

at each end portion of each strength strand of said set forming the marginal end portions of the individual strands into a bundle of strands; and

at the respective ends of the set of strength strands forming a knot entwining and binding together the respective bundles of strength strands and two mesh strands of the respective open-mesh-sleeves which are being wound in opposite helical directions of rotation.

15. (original) The method of claim 13, further comprising:

prior to interlacing the linear portions of the strength strands through the open spaces in the open-mesh-sleeve, forming a corresponding set of longitudinally extending grooves in the grip foundation surfaces under the paths of the corresponding interlacings of the strength strands to accommodate passing of the strength strands under mesh strands.

16. (original A microwave coaxial line section cable assembly of a type having a damage resistant outer sheath with the line further embedded in a filler of emollient liquid contained by the sheath comprising:

a longitudinal section of a microwave coaxial line, said coaxial line being of a type having an outer cylindrical surface;

a pair of annular grip foundation collars formed on, and in moldingly bonded relation to, marginal end portions of the microwave coaxial line at opposite ends of the line;

a one and another cable end grip assemblies at corresponding one and another opposite ends of said section of microwave coaxial line, each grip assembly of said one and another being of the type having at its end which faces axially inwardly toward the section of the microwave coaxial line a Chinese-finger-toy-type cylindrical open-mesh-sleeve, the open-mesh-sleeves of the respective grip assemblies being fitted over the cylindrical outer surfaces of grip foundation collars at the corresponding ends of the coaxial line;

a set of at least three strength strands which are equiangularly radially spaced in planes perpendicular to the coaxial line, the strength strands of the set extending through the longitudinally extending annular space between the grip foundation collars, each end of each strand of the set being made fast to the open-mesh sleeve to which it is adjacent; and

a cylindrical damage resistant outer sheath concentric with said microwave coaxial line;

the provision of an emollient liquid in said longitudinally extending annular space between the grip foundation collar through which the set of strength strands extend; and

said outer sheath having a midsection coextensive with and around the portion of the coaxial line intermediate the grip foundation collars, and adjoining the opposite ends of the midsection having marginal end portions which extend axially outwardly the arrangement of said sets of strength strands made fast to the open-mesh-sleeves, which marginal end portions are attached to said cable-end grip assemblies with an emollient liquid sealing relationship thereto.

17. (original) The cable assembly of claim 16, further comprising:

said outer layer of the microwave coaxial cable line being made of a material which moldingly bonds with polymer;

said pair of annular grip foundation collars are moldingly bonded to said outer layer portion of said coaxial cable line; and

said grip foundation collars being made of a polymer at the group consisting of polyurethane polysulfide, and RTV silicone.

18. (original) The cable assembly of claim 16, further comprising:

each strength strands of said set of at least three strength strands being made of aromatic polyamide fibers.